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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/668,917	09/23/2003	Daniel L. Steimke	14268	3333
7590	07/29/2005		EXAMINER	
Sally J. Brown AUTOLIV ASP, INC. 3350 Airport Road Ogden, UT 84405			ROSENBERG, LAURA B	
			ART UNIT	PAPER NUMBER
			3616	

DATE MAILED: 07/29/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/668,917

Applicant(s)

STEIMKE ET AL.

Examiner

Laura B. Rosenberg

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-34 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 26-34 is/are allowed.
- 6) ☒ Claim(s) 1-25 is/are rejected.
- 7) ☐ Claim(s) ____ is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 23 September 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. ____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date 9/23/03.
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. ____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: ____.

DETAILED ACTION

Specification

1. The disclosure is objected to because of the following informalities: "end 64" should be changed to --end 65-- (page 14, line 21). Appropriate correction is required.

Claim Objections

2. Claim 21 is objected to because of the following informalities: "second chamber is disposed within the second chamber" should be changed to --second aperture is disposed within the second chamber-- (line 2). Appropriate correction is required.

Claim Rejections - 35 USC § 102

3. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

4. Claims 1-6, 8-10, and 14-25 are rejected under 35 U.S.C. 102(b) as being anticipated by Acker et al. (6,349,964). Acker et al. disclose an airbag module (including #16, 18) able to protect an occupant (for example, #10) of a vehicle from impact, the airbag module comprising:
 - Cushion (including #18) comprising a divider (including #24) that defines a first chamber (including #22) and a second chamber (including #20) within the cushion

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- Inflator (including #36) producing inflation gas in response to receipt of an activation signal (via leads #46 and impact detection device)
- Housing (including #30) comprising a first aperture (including #44) and a second aperture (including #42)
- In response to deployment of the inflator, a first flow of inflation gas exits the housing via the first aperture and a second flow of inflation gas exits the housing via the second aperture (best seen with arrows in figure 2)
- Shape of housing makes it able to retain the inflator at any of a plurality of positions (for example pipe clips #32, 34 could be attached at various points along the inflator) making it able to tune a flow rate of the first and second flows of inflation gas into the first and second chambers via the first and second apertures (movement of the inflator within the housing would change the flow rate of the inflation gas into the chambers because the outlet orifice of the inflator would be closer to or farther away from the outflow openings of the housing)
- Airbag module is a side airbag module installed in a seat (for example, #12) occupied by the occupant (best seen in figure 1)
- First chamber (#22) comprises pelvic chamber and second chamber (#20) comprises thoracic chamber (column 3; best seen in figure 1)
- Inflator positioned within the housing such that pelvic chamber inflates to a higher pressure than pressure to which thoracic chamber is inflated (column 3; best seen in figure 2)
- Housing disposed within the cushion (best seen in figure 2)

- Housing comprises an elongated shape (tubular) and cushion comprises a mounting region (right side of cushion in drawings) that traverses the divider and has a length that makes it capable of lengthwise positioning of the housing at a plurality of locations within the mounting region, making it capable of permitting installation of the housing at a plurality of locations with respect to the seat (mounting region of cushion is long enough to allow housing to be positioned in more than one location), independent of a position of the cushion with respect to the seat
- Housing comprises a mounting feature (including #26, 32) able to facilitate attachment of the housing to the seat (best seen in figure 2)
- Inflator comprises an outlet orifice (including #38) and housing has a generally tubular shape with a first end (for example, lower end), second end (for example, upper end), and curved wall extending between the ends (best seen in figure 2), wherein the first aperture (including #44) is defined by the first end and the second aperture (including #42) is formed in the curved wall such that the outlet orifice is disposed generally between the first and second apertures (best seen in figure 2)
- Cushion comprises an outer wall (an outside wall of #18) having an opening (for example, near lower end of inflator) in communication with the second chamber (in communication with both chambers), wherein the divider (#24) comprises an end (end including #28) adjoining the mounting region (right side of cushion), the end having an "insertion surface" (for example, upper right portion of end) and a "resting surface" (for example, lower right portion of end which is in contact with housing in figure 2), wherein the "insertion surface" is able to permit translation of the housing

through the opening and between the "insertion surface" and the outer wall (if inflator assembly inserted through lower opening in cushion), and the "resting surface" is able to permit subsequent rotation of the housing to dispose the housing between the "resting surface" and the outer wall to substantially prevent gas flow between the first and second chambers outside the housing (best seen in figure 2)

- First aperture (including #44) has a generally circular shape (circular sectional view can be seen in figure 2)
- Shape of housing makes it able to permit the second flow to move along a generally annular pathway between the housing and the inflator (from #38 and through prechamber #40) to reach the second aperture (best seen with arrows in figure 2)
- First aperture (including #44) is disposed within the first chamber (including #22) and the second aperture (including #42) is disposed within the second chamber (including #20)
- Cushion comprises an outer wall (an outside wall of #18) in which an opening (for example, opening through which #32 protrudes) is formed in communication with the second chamber, wherein the mounting feature (including #26, 32) extends through the outer wall to facilitate sealing of the cushion opening and attachment of the housing to the seat (column 4; best seen in figure 2)
- Housing comprises a "retention ridge" (for example, including #32, 34) extending inward and able to retain the inflator generally coaxial with the housing (best seen in figure 2), wherein the plurality of positions are displaced from each other along an axis (for example, the lengthwise axis) of the housing

Claim Rejections - 35 USC § 103

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

6. Claim 7 is rejected under 35 U.S.C. 103(a) as being unpatentable over Acker et al. (6,349,964) in view of Wipasuramonton et al. (6,270,113). Acker et al. disclose the mounting feature comprising a stud (including #26) and the cushion comprising an opening (for example, opening through which #32 protrudes) in communication with the second chamber. Acker et al. do not comprise a mounting assembly in which the stud protrudes from the cushion and the cushion is folded over the stud to prevent gas from escaping the cushion via the opening. Wipasuramonton et al. teach an airbag module including a multi-chambered cushion (including #20), inflator (including #40), housing (including #200), the airbag module being a side airbag installed in a seat (for example, #250) of a vehicle, the housing comprising a mounting feature (including #58, 59, 204, 210, 214) able to facilitate attachment of the housing to the seat (column 4), and the mounting feature comprising a stud (including #58), wherein the cushion comprises an opening (including #150) and the stud protrudes from the cushion (through mounting openings #56) and the cushion is folded over the stud (via #56) to prevent gas from escaping the cushion via the opening (columns 3-4; best seen in figure 9). It would have been obvious to one skilled in the art at the time that the invention was made to modify the mounting assembly of Acker et al. such that it comprised stud protruding

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from the cushion and the cushion folded over the stud to prevent gas from escaping the cushion via the opening as claimed in view of the teachings of Wipasuramonton et al. so as to facilitate insertion the inflator and housing into the cushion while securely closing the cushion around the inflator and housing to prevent leakage of inflation gas, all in an inexpensive, quick, and easy to install manner.

7. Claims 11-13 are rejected under 35 U.S.C. 103(a) as being unpatentable over Acker et al. (6,349,964). Acker et al. disclose:

- Divider (including #24) abutting the housing (including #30) and able to restrict gas flow between the first and second chambers (columns 3-4)
- Housing and inflator are relatively sized and able to constrict a flow path between the first and second chambers through the housing and able to restrict gas flow between the first and second chambers (for example, via the prechamber #40; best seen in figure 2)
- Housing (including #30) is able to receive of heat directly from the first and second flows, enabling cooling of the first and second flow during their motion toward the first and second chambers (via flow through prechamber #40; best seen with arrows in figure 2)

Acker et al. do not specifically disclose the amount of time that the pressure differential between the first and second chambers is maintained. However, Acker et al. do disclose that “during the inflation process of the chambers, taking place very quickly, and up to the impact of the vehicle occupant, no equalizing of the internal pressure can

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occur in the two chambers.” Thus, It would have been obvious to one skilled in the art at the time that the invention was made to modify the amount of time of maintaining the pressure differential in the two chambers of Acker et al. such that it was for at least about fifty milliseconds as claimed since it has been held that discovering an optimum or workable range or value involves only routine skill in the art, and further because fifty milliseconds is at least the amount of time it would take to inflate the cushion and for impact of the vehicle occupant to occur, which is how long Acker et al. disclose that the pressure differential between the two chambers is maintained.

Allowable Subject Matter

8. Claims 26-34 are allowed.

Conclusion

9. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.


Acker et al. ('485) disclose a dual chamber airbag mounted on the seat of a vehicle for protecting the thoracic and head regions of an occupant of the seat.

Kumagai et al., Tanase et al., and Honda each disclose a dual chamber airbag module mounted on the seat of a vehicle for protecting the pelvic and thoracic regions of an occupant of the seat.

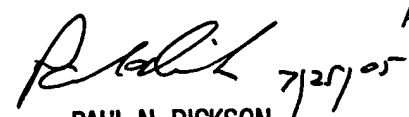
Any inquiry concerning this communication or earlier communications from the examiner should be directed to Laura B. Rosenberg whose telephone number is (571) 272-6674. The examiner can normally be reached on Monday-Friday 7:00am-3:30pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Paul Dickson can be reached on (571) 272-6669. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).


Laura B Rosenberg
Patent Examiner
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